

**DEPARTMENT OF TRANSPORTATION****DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 1.28**WELDING INSPECTION REPORT****Resident Engineer:** Siegenthaler, Peter**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-017703**Date Inspected:** 28-Oct-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 1000**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1830**Contractor:** American Bridge/Fluor Enterprises, a JV**Location:** Job Site

<b>CWI Name:</b>	Mike Johnson and William Sherwood			<b>CWI Present:</b>	Yes	No
<b>Inspected CWI report:</b>	Yes	No	N/A	<b>Rod Oven in Use:</b>	Yes	No N/A
<b>Electrode to specification:</b>	Yes	No	N/A	<b>Weld Procedures Followed:</b>	Yes	No N/A
<b>Qualified Welders:</b>	Yes	No	N/A	<b>Verified Joint Fit-up:</b>	Yes	No N/A
<b>Approved Drawings:</b>	Yes	No	N/A	<b>Approved WPS:</b>	Yes	No N/A
				<b>Delayed / Cancelled:</b>	Yes	No N/A
<b>Bridge No:</b>	34-0006			<b>Component:</b>	Orthotropic Box Girder	

**Summary of Items Observed:**

Caltrans Office of Structural Material (OSM) Quality Assurance Inspector (QAI) Joselito Lizardo was present at the Self Anchored Suspension (SAS) job site as requested to perform observations on the welding of components for the San Francisco Oakland Bay Bridge (SFOBB) Project.

At OBG 2E-PP17-E3#1, #2, #3 and 2E-PP17-E4-#1, #3, #4 top deck plate 'A' erection access holes outside, QA randomly observed ABF/JV qualified welders Eric Sparks and Darcel Jackson continuing to perform CJP groove welding fill pass to cover pass on the infill plates to top deck butt joints. The welders were observed respectively welding in the 1G (flat) position utilizing Shielded Metal Arc Welding (SMAW) with 1/8" diameter E7018H4R electrode implementing welding procedure ABF-WPS-D15-1070. The infill plates have single bevel of 45 degrees and 5mm root gap to deck plate with 250mm diameter x 12.5mm thickness copper backing plate. During the shift, ABF QC Mike Johnson was noted monitoring the welders. Both welders have completed welding cover pass on all of the infill plates on locations mentioned above.

At OBG 7E/8E side plate 'E' (1000mm to 4300mm) inside, QA randomly observed ABF/JV qualified welder Sungtao, Huang ID # 3794 continuing to perform CJP groove (splice) welding fill pass on the splice butt joint. The welder was observed perform automatic welding in the 3G (vertical) position utilizing a dual shield Flux Cored Arc Welding (FCAW-G) with E71T-1M, 1/16" diameter wire electrode and implementing Caltrans approved Welding Procedure Specification (WPS) ABF-WPS-D15-3042A-1. The joint being welded has a single V-groove butt joint with backing bar. The splice joint was preheated and maintained to greater than 150 degrees Fahrenheit using Miller Proheat 35 Induction Heating System heater blankets located at the opposite side of the plate prior/during welding. During welding, ABF Quality Control (QC) William Sherwood was noted monitoring the

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welding parameters of the welder. At the end of the shift, welding of the fill passes on the splice butt joint was not completed and should continue tomorrow.

At OBG 3E-PP23.5-E2-S top deck ventilation access hole and 1E-PP9.5-E3-#1 erection access hole outside, QA observed ABF QC Patrick Swain perform Magnetic Particle Testing (MT) and Ultrasonic Testing (UT) on the flush ground cover of the welded butt joint. First, QC performed 100% MT on the ground flush cover of the welded butt joint. ABF QC was using a Parker Contour Probe electromagnetic yoke with red magnetic powder as detecting media. QC completed the MT without any significant indications noted. After the completion of MT, QC also performed 100% UT on the flush ground cover of the welded butt joint. QC was using General Electric USM35 ultrasonic machine and was observed scanning from both sides of face 'A' of the joint. Ultrasonic testing on the butt joint was completed and QC informed QA that there were no significant defects noted.

At OBG 3E-PP23.5-E2-LSE longitudinal stiffener underneath the ventilation access hole infill plate inside, QA noted the splice butt joint was completely welded from both sides of the joint. ABF welder Hua Qiang Hwang ID #2930 was observed flush grinding the weld cover of the butt joint. While this welder was flush grinding the weld cover at this location, another ABF welder Xiao Jian Wan was noted preparing welding machine to perform weld battering on the bevel of the next longitudinal splice butt joints OBG 5E/6E LS6 and LS5. At the end of the shift, both welders were still performing their respective tasks and should continue tomorrow.



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### Summary of Conversations:

No significant conversation occurred today.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact SMR Mohammad Fatemi (916) 813-3677, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Lizardo, Joselito
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Quality Assurance Inspector
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<b>Reviewed By:</b>	Levell, Bill
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QA Reviewer
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